



October 2, 2019

Environmental Restoration, LLC 1666 Fabick Drive Fenton, MO 63026

Certificate of Analysis

Project Name: Soil Samples Workorder: 3059810

Purchase Order: Workorder ID: Shiloh Church Road/3-5467

Dear Non responsive due to revise:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, September 25, 2019.

The Non responsive due to revised scope is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact JNon responsive due to revised scope

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the Non responsive due to revised scope

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

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SAMPLE SUMMARY

Workorder: 3059810 Shiloh Church Road/3-5467

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3059810001	SS09W	Solid	9/23/2019 16:40	9/25/2019 09:03	Collected by Client
3059810002	SS09E	Solid	9/23/2019 17:10	9/25/2019 09:03	Collected by Client
3059810003	SS09SE	Solid	9/24/2019 11:45	9/25/2019 09:03	Collected by Client
3059810004	SS09NW	Solid	9/24/2019 12:15	9/25/2019 09:03	Collected by Client
3059810005	SS17	Solid	9/24/2019 15:00	9/25/2019 09:03	Collected by Client

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SAMPLE SUMMARY

Workorder: 3059810 Shiloh Church Road/3-5467

Notes

- -- Samples collected by personnel are done so in accordance with the procedures set forth in the Field Sampling Plan (20 Field Services Sampling Plan).
- -- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- -- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- -- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- -- The Chain of Custody document is included as part of this report.
- -- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- -- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- -- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- -- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- -- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

- J Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
- U Indicates that the analyte was Not Detected (ND)
- N Indicates presumptive evidence of the presence of a compound
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- RDL Reporting Detection Limit
- ND Not Detected indicates that the analyte was Not Detected at the RDL
- Cntr Analysis was performed using this container
- RegLmt Regulatory Limit
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- %Rec Percent Recovery
- RPD Relative Percent Difference LOD DoD Limit of Detection
- LOQ DoD Limit of Quantitation
- DL DoD Limit of Quantitation

 DL DoD Detection Limit
- Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
- (S) Surrogate Compound
- NC Not Calculated
- * Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 3059810 Shiloh Church Road/3-5467

Lab ID: 3059810001 Date Collected: 9/23/2019 16:40 Matrix: Solid

Sample ID: **\$509W** Date Received: 9/25/2019 09:03

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
WET CHEMISTRY									Non respona	SIVE
Moisture	7.6		%	0.1	S2540G-11			9/26/19 08:58		
Total Solids	92.4		%	0.1	S2540G-11			9/26/19 08:58		
TCLP METALS										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:32		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:32		A1
Cadmium, Total	0.54		mg/L	0.011	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:32		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:32		A1
Lead, Total	2.9		mg/L	0.033	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:32		A1
Mercury, Total	ND		mg/L	0.0020	SW846 7470A	9/27/19 14:15	AHI	9/28/19 05:30		Α
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:32		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:32		A1

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ANALYTICAL RESULTS

Workorder: 3059810 Shiloh Church Road/3-5467

Lab ID: 3059810002 Date Collected: 9/23/2019 17:10 Matrix: Solid

Sample ID: **\$509E** Date Received: 9/25/2019 09:03

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
WET CHEMISTRY									Non respon	sive
Moisture	5.2		%	0.1	S2540G-11			9/26/19 08:58		
Total Solids	94.8		%	0.1	S2540G-11			9/26/19 08:58		
TCLP METALS										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:36		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:36		A1
Cadmium, Total	1.1		mg/L	0.011	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:36		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:36		A1
Lead, Total	13.6		mg/L	0.033	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:36		A1
Mercury, Total	ND		mg/L	0.0020	SW846 7470A	9/27/19 14:15	AHI	9/28/19 05:31		Α
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:36		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:36		A1

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ANALYTICAL RESULTS

Workorder: 3059810 Shiloh Church Road/3-5467

Lab ID: 3059810003 Date Collected: 9/24/2019 11:45 Matrix: Solid

Sample ID: **\$509\$E** Date Received: 9/25/2019 09:03

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
WET CHEMISTRY									Non resp	
Moisture	5.6		%	0.1	S2540G-11			9/30/19 11:20		
Total Solids	94.4		%	0.1	S2540G-11			9/30/19 11:20		
TCLP METALS										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:40		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:40		A1
Cadmium, Total	1.7		mg/L	0.011	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:40		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:40		A1
Lead, Total	3.3		mg/L	0.033	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:40		A1
Mercury, Total	ND		mg/L	0.0020	SW846 7470A	9/27/19 14:15	AHI	9/28/19 05:32		Α
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:40		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:40		A1

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ANALYTICAL RESULTS

Workorder: 3059810 Shiloh Church Road/3-5467

Lab ID: 3059810004 Date Collected: 9/24/2019 12:15 Matrix: Solid

Sample ID: **\$509NW** Date Received: 9/25/2019 09:03

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
WET CHEMISTRY									Non respo	1
Moisture	7.2		%	0.1	S2540G-11			9/26/19 08:58		
Total Solids	92.8		%	0.1	S2540G-11			9/26/19 08:58		
TCLP METALS										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:43		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:43		A1
Cadmium, Total	3.4		mg/L	0.011	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:43		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:43		A1
Lead, Total	11.8		mg/L	0.033	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:43		A1
Mercury, Total	ND		mg/L	0.0020	SW846 7470A	9/27/19 14:15	AHI	9/28/19 05:34		Α
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:43		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:43		A1
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ANALYTICAL RESULTS

Workorder: 3059810 Shiloh Church Road/3-5467

Lab ID: Date Collected: 9/24/2019 15:00 Matrix: Solid 3059810005

Date Received: 9/25/2019 09:03 Sample ID: **SS17**

Parameters	Results	Flag	Units	RDL	Method	Prepared	Ву	Analyzed	Ву	Cntr
WET CHEMISTRY									Non responsi	70
Moisture	13.0		%	0.1	S2540G-11			9/26/19 08:58		
Total Solids	87.0		%	0.1	S2540G-11			9/26/19 08:58		
TCLP METALS										
Arsenic, Total	ND		mg/L	0.14	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:47		A1
Barium, Total	ND		mg/L	2.8	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:47		A1
Cadmium, Total	1.6		mg/L	0.011	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:47		A1
Chromium, Total	ND		mg/L	0.028	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:47		A1
Lead, Total	0.51		mg/L	0.033	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:47		A1
Mercury, Total	ND		mg/L	0.0020	SW846 7470A	9/27/19 14:15	AHI	9/28/19 05:35		Α
Selenium, Total	ND		mg/L	0.11	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:47		A1
Silver, Total	ND		mg/L	0.022	SW846 6010C	9/27/19 19:50	SXC	9/30/19 09:47	Non resp	A1

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ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3059810 Shiloh Church Road/3-5467

Lab ID	Sample ID	Analysis Method	Prep Method
3059810001	SS09W	S2540G-11	
3059810001	SS09W	SW846 6010C	SW846 3015
3059810001	SS09W	SW846 7470A	SW846 7470A
3059810002	SS09E	S2540G-11	
3059810002	SS09E	SW846 6010C	SW846 3015
3059810002	SS09E	SW846 7470A	SW846 7470A
3059810003	SS09SE	S2540G-11	
3059810003	SS09SE	SW846 6010C	SW846 3015
3059810003	SS09SE	SW846 7470A	SW846 7470A
3059810004	SS09NW	S2540G-11	
3059810004	SS09NW	SW846 6010C	SW846 3015
3059810004	SS09NW	SW846 7470A	SW846 7470A
3059810005	SS17	S2540G-11	
3059810005	SS17	SW846 6010C	SW846 3015
3059810005	SS17	SW846 7470A	SW846 7470A

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Condition of Sample Receipt Form

Enumonmetal Restoration 59810 Initials: Date:	175	
1. Were airbills / tracking numbers present and recorded?	(YES	NO
Tracking number: See Coc.	\$1 TO	
2. Are Custody Seals on shipping containers intact?	YES	-NO
3. Are Custody Seals on sample containers intact?	YES	NO
4. Is there a COC (Chain-of-Custody) present?	YES,	NO
5. Are the COC and bottle labels complete, legible and in agreement?		NO ·
Sa. Does the COC contain sample locations?		NO
Sb. Does the COC contain date and time of sample collection for all samples?		NO
Sc. Does the COC contain sample collectors name?		NO
5d. Does the COC note the type(s) of preservation for all bottles?	\sim	NO
Se. Does the COC note the number of bottles submitted for each sample?		NO
Sf. Does the COC note the type of sample, composite or grab?		NO
Sg. Does the COC note the matrix of the sample(s)?	_	NO
6. Are all aqueous samples requiring preservation preserved correctly?	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		NO
8. Are all samples within holding times for the requested analyses?		NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)	(ES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	YES	NO
11. Were the samples received on ice?		NO
12. Were sample temperatures measured at 0.0-6.0°C.	_	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below	YES	(NO)
13a. Are the samples required for SDWA compliance reporting?	YES	NO
13b. Did the client provide a SDWA PWS ID#?	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-97	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	YES	NO
	153	NO
Cooler #:	2	
Thermometer ID: 403		
Radiological (μCi):	٠.	
COMMENTS (Required for all NO responses above and any sample non-conformance):		

COMMENTS (Required for all NO responses above and any sample non-conformance)

Rev. 4/29/2019